

In re Patent Application of:
MARK WELLS
Serial No. 10/542,889
Filing Date: 11/18/2005

In the Claims:

1. (currently amended): An electrical connection device arranged for connection to a machine cable, the device comprising:

a pin and a socket, each having engagement surfaces and one of the pin and the socket having a further surface that forms a wedging surface for the device, the pin and the socket being moveable relative to each other from a released position to an engaged position in which the engagement surfaces are engaged to form an electrical contact at least one engagement surface comprising a convexly curved surface, and

a wedge portion arranged to impart a force on the wedging surface on movement to the engaged position, the wedge portion comprising a flexible material,

wherein the pin and the socket are arranged so that the engagement surfaces move into opposing relationship on movement to the engaged position and the force imparted on the wedging surface biases one of the opposing engagement surfaces against the other engagement surface in a manner such that the engagement surfaces frictionally engage with one another.

2. (original): The electrical connection device as claimed in claim 1 being arranged for delivery of a power of a few hundred kilowatts.

3. (original): The electrical connection device as claimed in claim 1 arranged for delivery of power having an associated voltage of one or more kilovolts.

Claims 4 and 5 (cancelled)

6. (previously presented): The electrical connection device as claimed in claim 1 wherein the wedge portion is separable from at least one of the pin and the socket.

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7. (original): The electrical connection device as claimed in claim 1 wherein the wedge portion is adhered to a portion of the pin or the socket.

8. (original): The electrical connection device as claimed in claim 1 wherein at least one of the pin and the socket have a marginal portion that includes the wedging surface and that has at least one gap that expands or reduces when the wedge portion imparts a force on the wedging surface so that the outer perimeter of the marginal portion expands or compresses respectively.

9. (original): The electrical connection device as claimed in claim 8 wherein the socket includes the marginal portion.

10. (original): The electrical connection device as claimed in claim 9 wherein the wedge portion is arranged such that, when the pin and the socket are moved relative to each other to the engaged position, the wedge portion compresses the marginal portion against the pin whereby the pin and the socket engage to establish the electrical connection.

11. (original): The electrical connection device as claimed in claim 9 wherein the socket is of a longitudinal shape and the marginal portion is an end-portion.

Claim 12. (cancelled).

13. (previously presented): The electrical connection device as claimed in claim 1 wherein the flexible material is a polymeric material.

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14. (original): The electrical connection device as claimed in claim 1 wherein the wedge portion comprises an electrically conductive material.

15. (previously presented): The electrical connection device as claimed in claim 1 wherein the flexible material is a rubber.

16. (original): The electrical connection device as claimed in claim 1 wherein the pin and the socket are of a generally round cross-section.

17. (original): The electrical connection device as claimed in claim 1 wherein the wedge portion is provided in form of a ring-like portion positioned such that, when the pin and the socket are moved relative to each other towards the engaged position, the wedge portion wedges the end-portion of the socket against the pin.

18. (original): The electrical connection device as claimed in claim 1 wherein the pin and the socket, when engaged, are surrounded by a sleeve.

19. (previously presented): The electrical connection device as claimed in claim 18 wherein the pin is carried within the sleeve and secured therein.

20. (original): The electrical connection device as claimed in claim 1 wherein the socket has an inner surface that has a substantially uniform internal diametrical dimension.

Claims 21 - 24(cancelled)

25. (original): The electrical connection device as claimed in claim 1 wherein the

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pin has an outer surface that has a substantially uniform external diametrical dimension.

26. (currently amended): The electrical connection device as claimed in claim 1 wherein the pin has an outer surface that is convexly curved ~~has a tapered region~~.

Claims 27 - 29 (cancelled)

30. (original): The electrical connection device as claimed in claim 8 wherein the gap is one of a plurality of longitudinal gaps that split the socket into three or more fingers.

31. (original): The electrical connection device as claimed in claim 30 wherein the fingers are substantially equal.

32. (previously presented): The electrical connection device as claimed in claim 1 comprising at least two wedge portions and wherein both the pin and the socket have wedging surfaces, the wedge portions being arranged to impart a force on respective wedging surfaces to bias respective opposing engagement surfaces against each other.

33. (currently amended): A method of connecting a pin and a socket of an electrical connection device arranged for connection to a machine cable, the method comprising the steps of moving the pin and the socket relative to each other towards a position at which the pin and the socket are engaged, the pin and the socket having engagement surfaces, at least one of the engagement surfaces comprising a convexly curved surface, and at least one of the pin and the socket having an additional wedging surface, the pin and the socket being arranged so that during engagement the engagement surface of the

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pin opposes the engagement surface of the socket and

wedging a wedging portion to impart a force on the wedging surface, the wedging portion comprising a flexible material,

wherein the pin and the socket are arranged so that the force causes pressing of one of the opposing engagement surfaces against the other engagement surface to establish an electrical contact.

34. (currently amended): An electrical connection device arranged for connection to a machine cable, the device comprising:

a pin and a socket, the pin and the socket being moveable relative to each other from a released position to an engaged position and having engagement surfaces, at least one of the pin and the socket having a marginal portion that is compressible or expandable in at least one direction, at least one of the engagement surfaces comprising a convexly curved surface, and

a wedge portion comprising a flexible material, the wedge portion being arranged such that, when the pin and the socket are moved relative to each other towards the engaged position, the wedge portion expands or compresses the marginal portion whereby the engagement surfaces of the pin and the socket engage.

Claim 35 (cancelled)

36. (previously presented): The electrical connection device as claimed in claim 26 wherein the tapered region is a curved region.

37. (new): The electrical connection device as claimed in claim 1, wherein the socket has an inner surface that is convexly curved.